

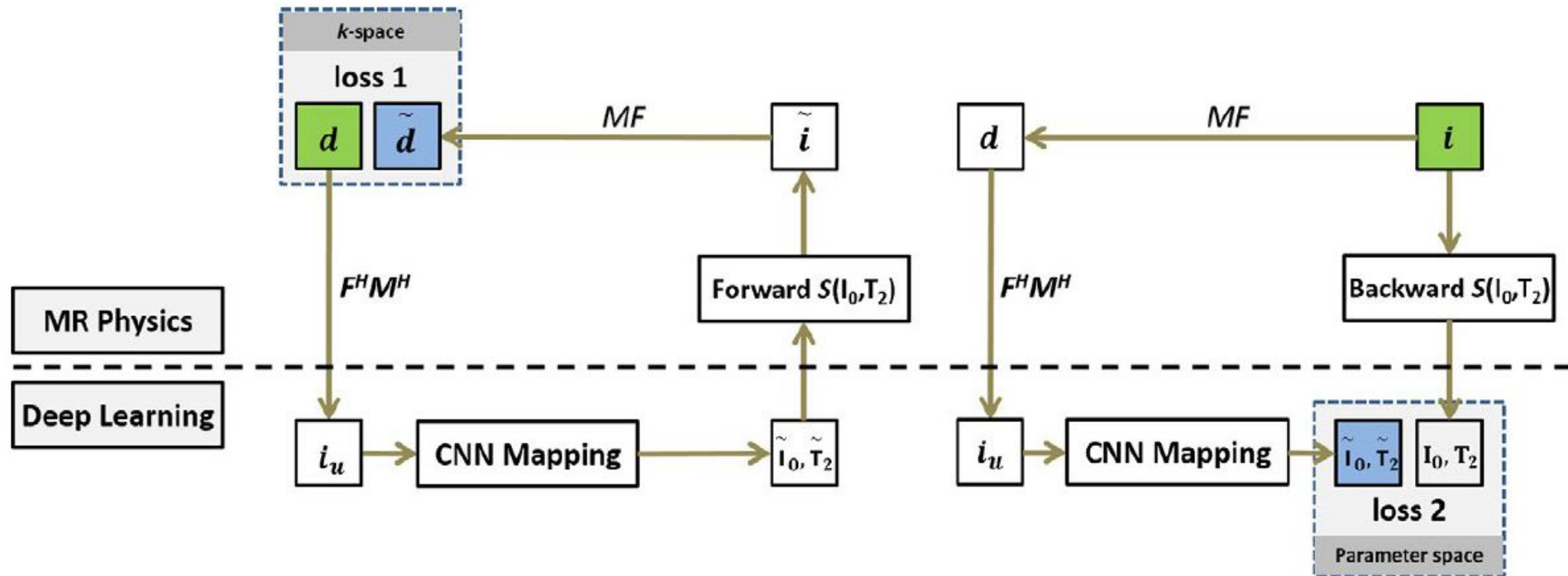
The background of the slide is a collage of brain MRI slices. The top half features several axial slices with labels such as 'AP 26 pos', 'AP 27', 'Sc 6', 'T1W/M', and 'FLAIR'. The bottom half shows more slices, including one labeled 'AP 6 an' and 'Sc 6'. The slices are arranged in a grid-like fashion, with some overlapping. The colors are primarily shades of blue and green, with some white and yellow highlights in the brain tissue.

MANTIS: Implementation

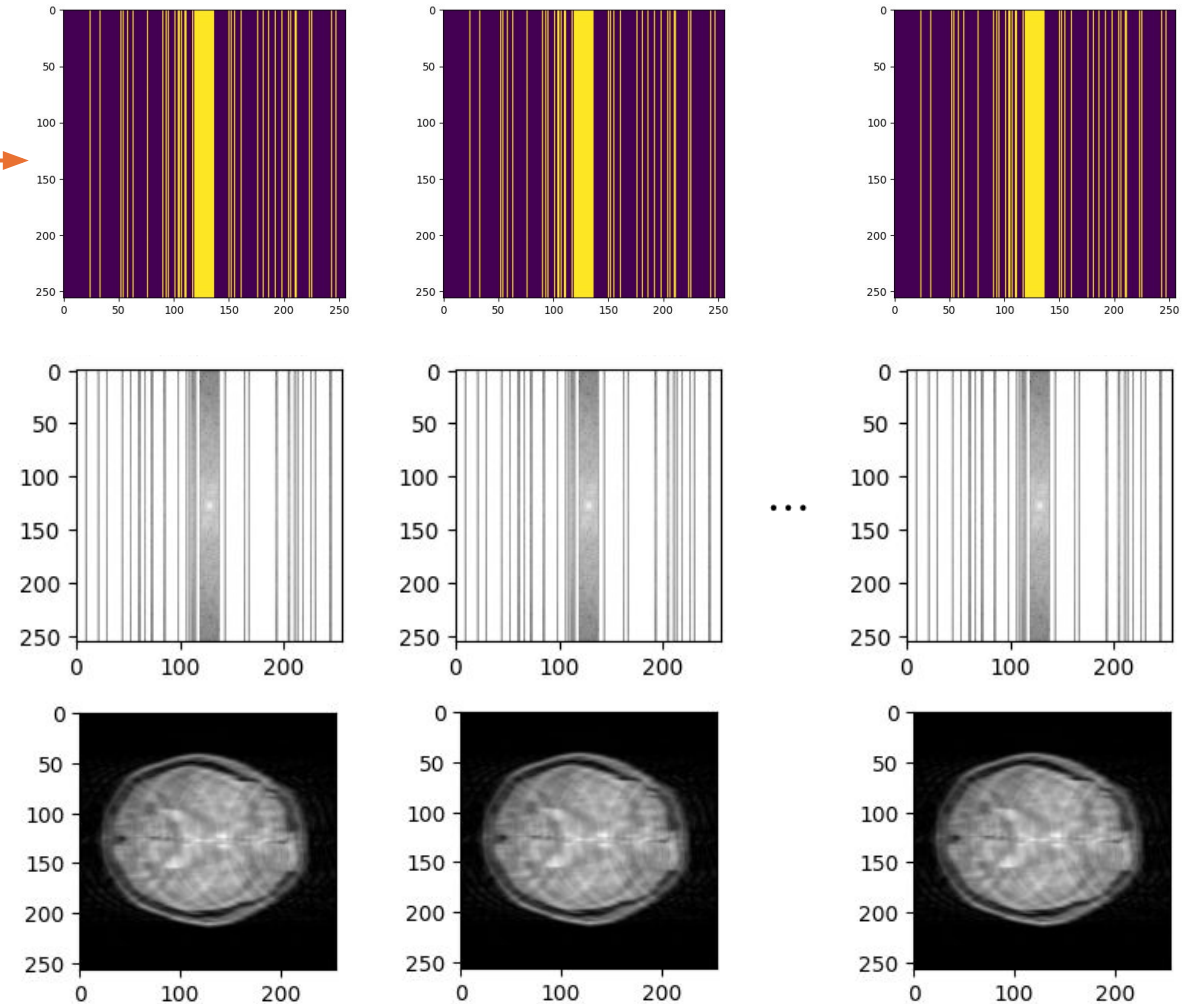
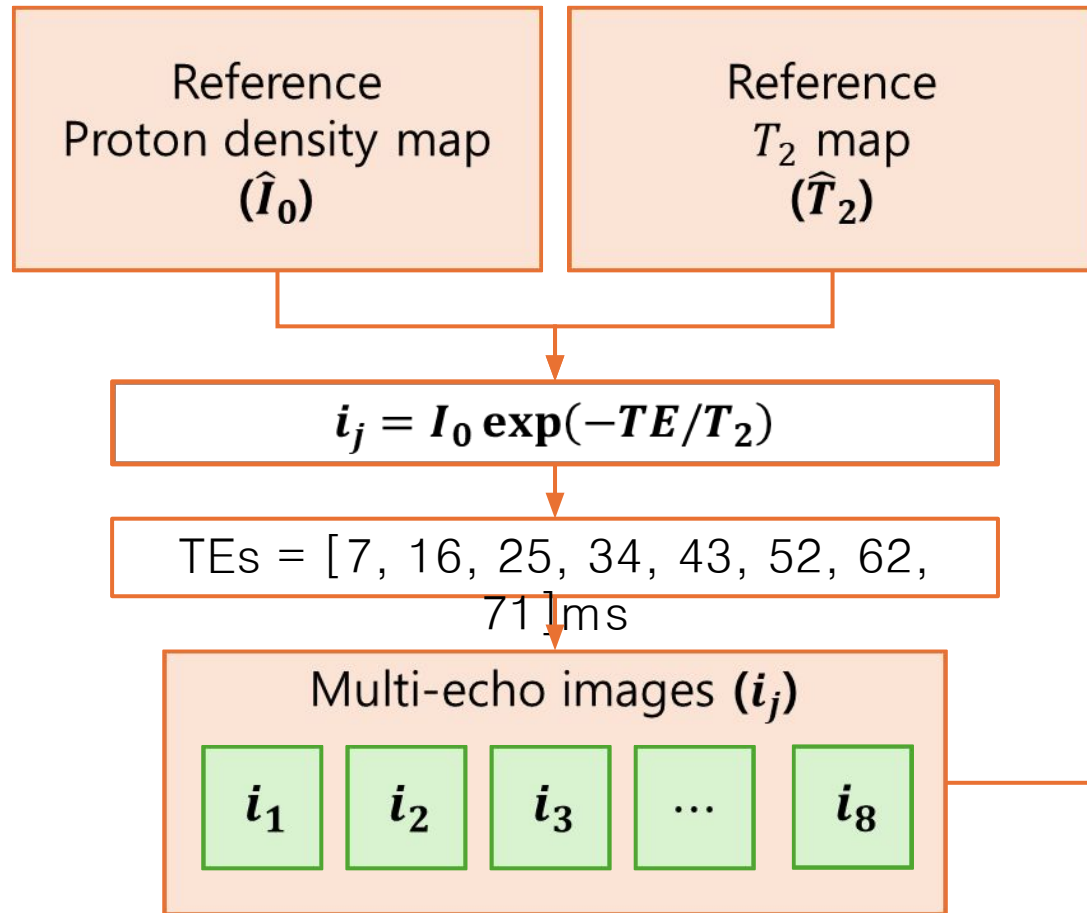
Hyunjong Kim

Overall process

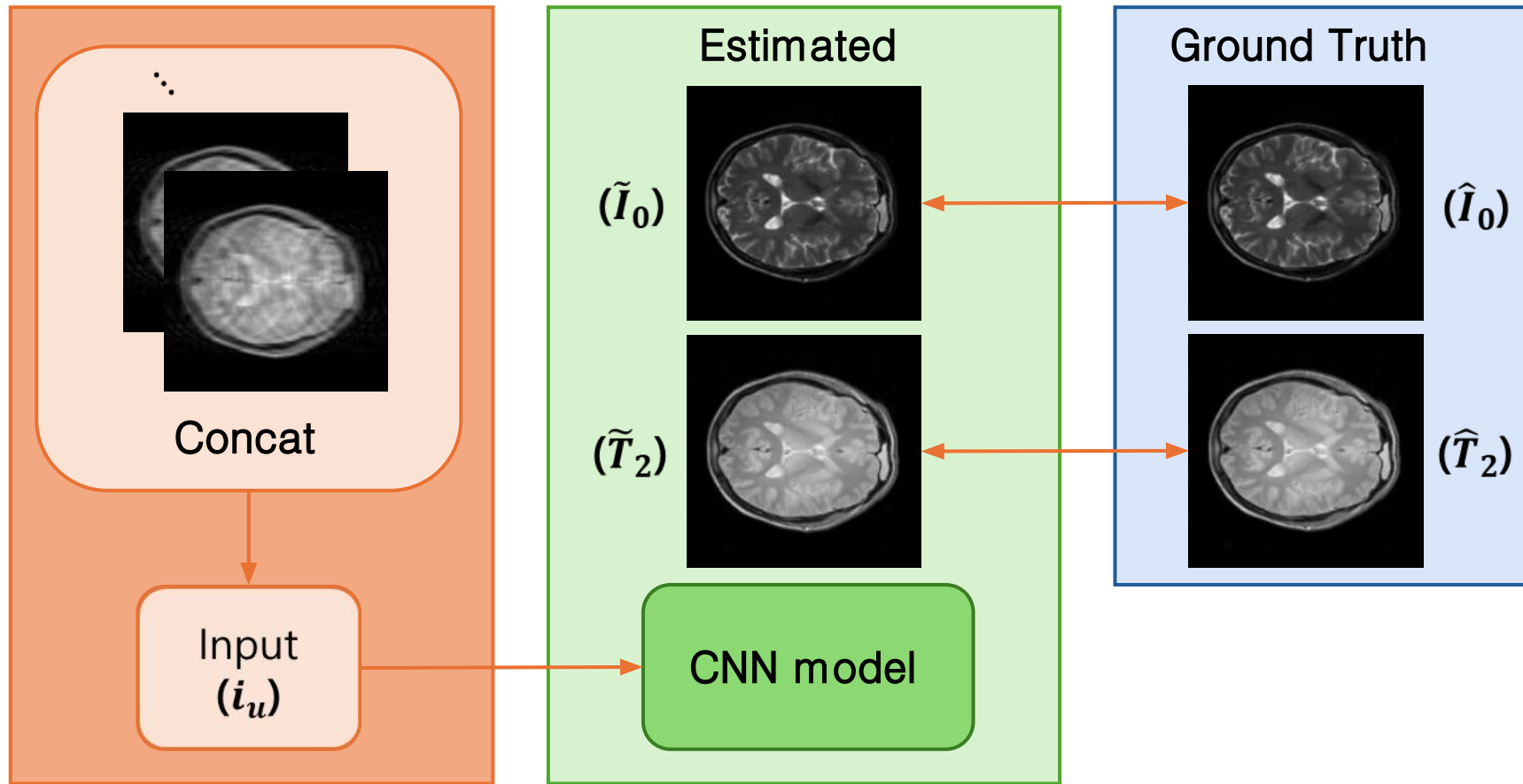
$$\hat{\theta} = \arg \min_{\theta} \left(\lambda_{data} \mathbf{E}_{i_u \sim \text{domain}(i_u)} \left[\sum_{j=1}^t \|ES_j(C(i_u|\theta)) - d_j\|_2^2 \right] + \lambda_{cnn} \mathbf{E}_{i_u \sim \text{domain}(i_u)} [\|C(i_u|\theta) - (I_0, T_2)\|_2] \right)$$



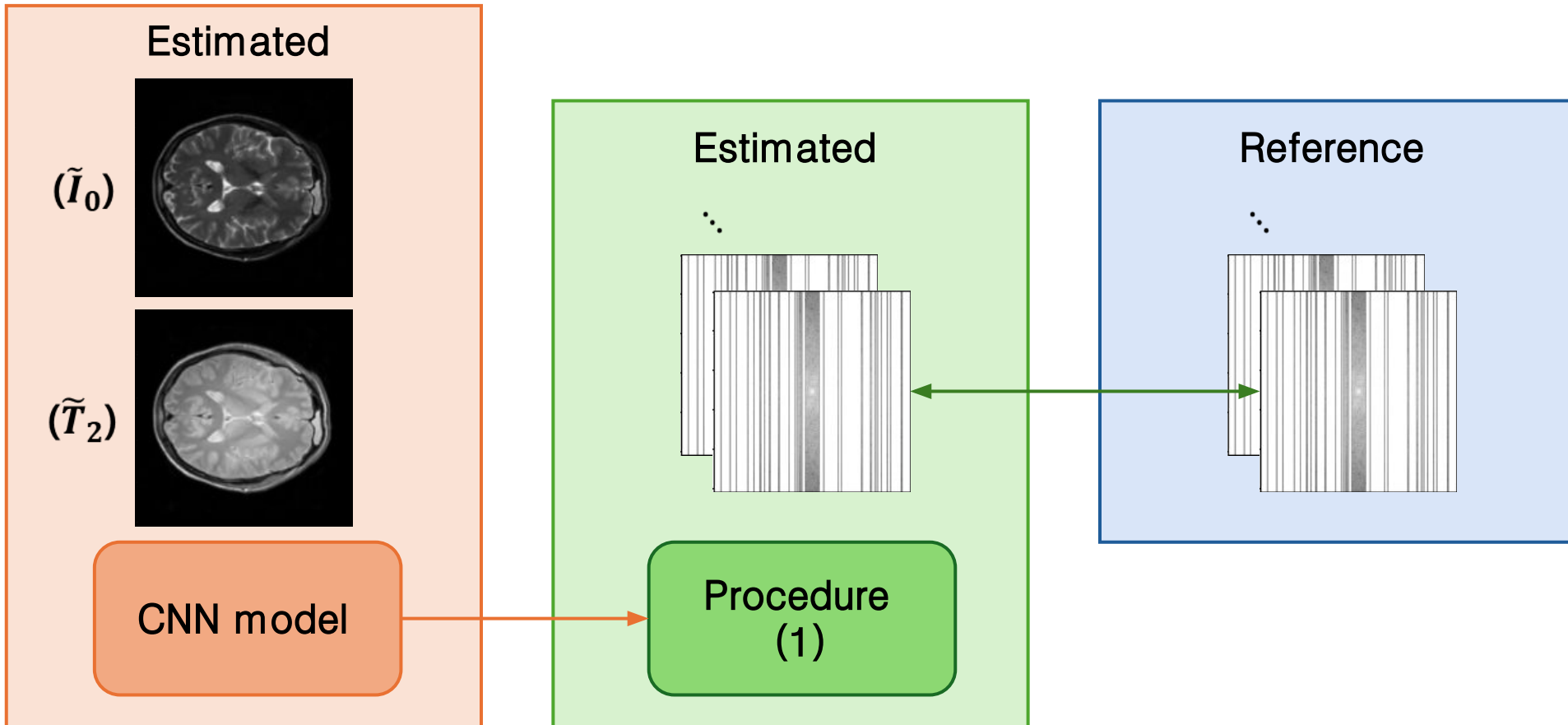
1) Data preparation



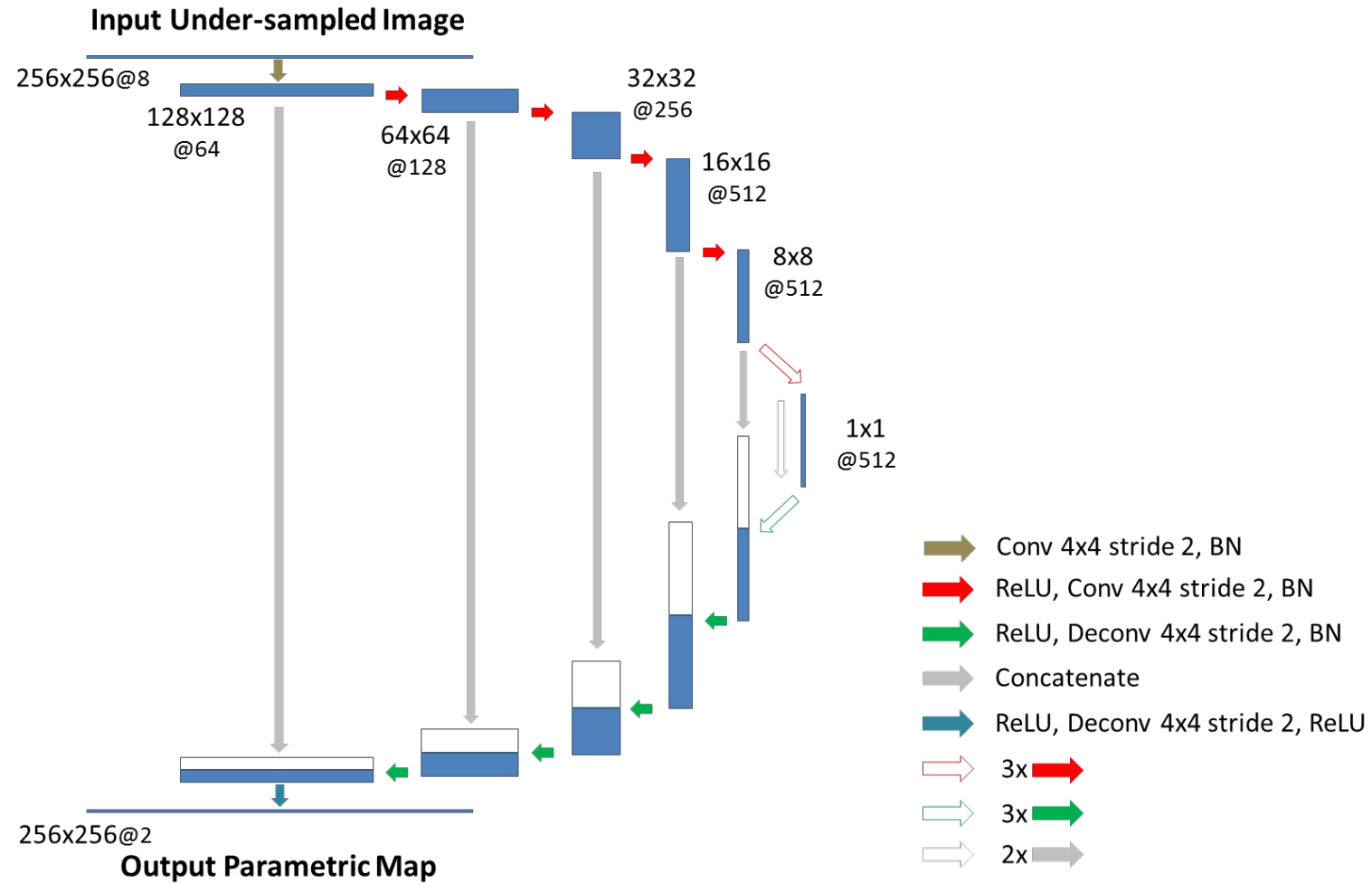
2.1) CNN Loss



2.2) Data Consistency Loss



UNet Architecture



Results

$$\lambda_{data} = 0.1, \lambda_{cnn} = 1.0, LR = 0.0002$$

